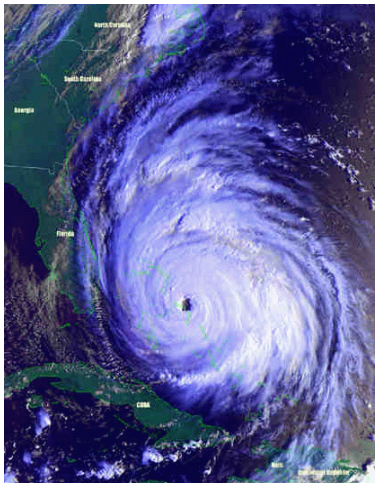
noaaresearch

Ocean and Coastal Resources Research Theme

Exploring and investigating ocean habitats and resources



Overview

TheThe earth is The earth is the The earth is the only known living planet, and its life oceans.oceans. Over a hundred years of oceanographic research shows that the oceans playplay a critical role in regulating weather and climate,play a critical role in regulating lifelife forms, and provide significant biological and mineral resources. It is NOAA s responsibilityresponsibility to manage U.S. territorial waters to insure environmenta ecosystemecosystem health, economic stability and growth,ecosystem health, econom NOAA Research scientists workNOAA Research scientists work with managers in all th information needed to accomplish these objectives.

NOAA sNOAA s researchNOAA s research laborNOAA s research laboratories, Natio UnderseaUndersea ResearchUndersea Research Program, andUndersea Research Pr topicstopics related to the oceans and U.S. Great Lakes. These itopics related t hazards,hazards, ocean circulation, pollution,hazards, ocean circulation, pollution, invasi andand ocean products. In all, the ultimate objective is to improve or atand ocean produc ecosystem health while improving human quality of life.

NOAANOAA Research is working towards accurate prediction ofNOAA Research is wo and man-made environmental change in order to eliminate or reduce them.

Key Issues for the United States

AA varieA variety of haA variety of hazards regularly threaten the nation's coastal inh meteorologicalmeteorological events such as hurricanes, tropical cyclonmeteorologic oftenoften bring high winoften bring high winds, often bring high winds, storm surge particularly damaging to coastal areas.

AlthoughAlthough natural hazards have occurredAlthough natural hazards have occurre havehave been increasingly devastating. Estimated disastehave been increasingly StatesStates range from $10 billion to $50 billion annually,States range from $10 billion singlesingle major disaster around $500 million. One ofsingle major disaster around $50 totto the rise in disasterto the rise in disaster losses is the steady increase in the popula areas, such as coastal areas.

InIn additionIn addition to the threats to the U.S. coastline, theIn addition to the threats to livingliving marine resources is at rliving marine resources is at risk. The dliving precariousprecarious state ofprecarious state of some West Coastprecarious state of s ofof sharks andof sharks and other marine species are just a few of the areas that require attention.

AlthoughAlthough many of our living resources remain healthy, the pAlthough m demandsdemands placed on them will continue todemands placed on them will continu thethe long-term viabilitythe long-term viability of the natural system, whilethe long-term v socialsocial and economic needs of the fisheries. For example, NOAA recognizes that aa stronger U.S. aquaculture industry can significantly increasea stronger U.S. aquacult supplies,supplies, and work to hold in check or decrease the U.S. ssupplies, and work reached nearly $7 billion in 1998.

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Impacts On Public Safety

OceanicOceanic processes and events can have significant consequences for public safety, althoughOceanic proc of the events are quite different. NOAA predicts

tsunamis,tsunamis, floods, coastal erosion, stsunamis, floods, coastal erosion, signitsunamis, floods, coastal er weatherweather andweather and oceanographic information has specific consequences andweather and oceanogra safetysafety (including marine accidents). In all of these, NOAA Research provides the means to improvsafety predictions and reduce the human effects of natural events.

Impacts On The Economy

AmericanAmerican aquatic living resourcesAmerican aquatic living resources are sources not onlyAmerican aquatic l ofof life. NOAAof life. NOAA Research acts to reduce overfishing by helpingof life. NOAA Research acts to reduce causescauses and consequecauses and consequencescauses and consequences causes and consequences ofcause geagear),gear), and by promoting and developing aquaculture to replace lost natural populations and satisfy demgear) withoutwithout damaging wild swithout damaging wild stockswithout damaging wild stocks. It also helps maintain andand their effects. Through sand their effects. Through studies of exand their effects. Through studies of developmentdevelopment of industrial biotechnology and ocean edevelopment of industrial biotechnology a informationalinformational programs,informational programs, NOAA research promotes responsibleinformational pro economies, and an informed citizenry.

Impacts On Public Health

EffectsEffects ofEffects of waterEffects of water quality on environmental health and its consequences to public hea andand on occasion, land on occasion, life thand on occasion, life threatening. Increased nutrients from human a aabundancesabundances of a wide variety of harmful algal blooms, red tides, and other microorganisms such Pfiesteria.. Blooms of. Blooms of some aquatic organisms can produce toxins virulent enough to kill humans who. E organismsorganisms in which the toxins are conceorganisms in which the toxins are concentrated,organisms in pollutionpollution and its effects is also a serious problem for all living organisms exposedpollution and its effects is NOAANOAA Research works closely with other federal, stateNOAA Research works closely with other federal, amounts, and effects of these contaminants.

What NOAA Research Can Do

- Provide information leading to restoring depleted populations of exploited and protected species;
- ReduceReduce coastal hazards from contaminated water, harmful algal blooms, coastal erosion, andReduce co accidents;
- Develop and promote sustainable marine aquaculture;
- ProvideProvide integrated scientific information to support informed decisions regarding lanProvide integrat resource management, fisheries management, and ecosystem health;
- Better characterize and understand the role of the oceans in weather and climate predictions;
- DevelopDevelop and provide essential understanding of the physical, chemical, andDevelop and provide essen oceans and Great Lakes in support of comprehensive ecosystem management;
- FosterFoster public abilityFoster public ability to underFoster public ability to understand and ind integrate environmental issues; and
- IncreaseIncrease long-term commitment to rIncrease long-term commitment to reIncrease long-term comm streamlining processes, and modernizing systems.